Ultra Fast Plasma Analyzer - an all-sky camera for charged particles.

O.Vaisberg, B.Goldstein, D.Chornay, J.Keller, L.Avanov, D.Brinza, D.Croley, E.Sittler, T.Moore, P.Rozmarynovsky, S.Fuselier, and A.Ghielmetti

We address an issues of providing wide un-obscured field of view and fast data acquisition of the charged particles. The goal is achieved with cylindrically symmetric electrostatic mirror and single imaging detector. An example is given that provides complete 2 field of view, or all-sky charged particles camera. Adaptation to specific requirements of the experiment is feasible. For example, solar wind measurements can be performed with desired detail by modifying the mirror for this purpose. Full 4 field of view can be covered with 2 analyzers. Both pseudo-integral and differential energy selection measurements are possible. High degree of UV rejection is achieved by the use of secondary mirror and intermediate particle focusing. Very high temporal resolution is feasible.